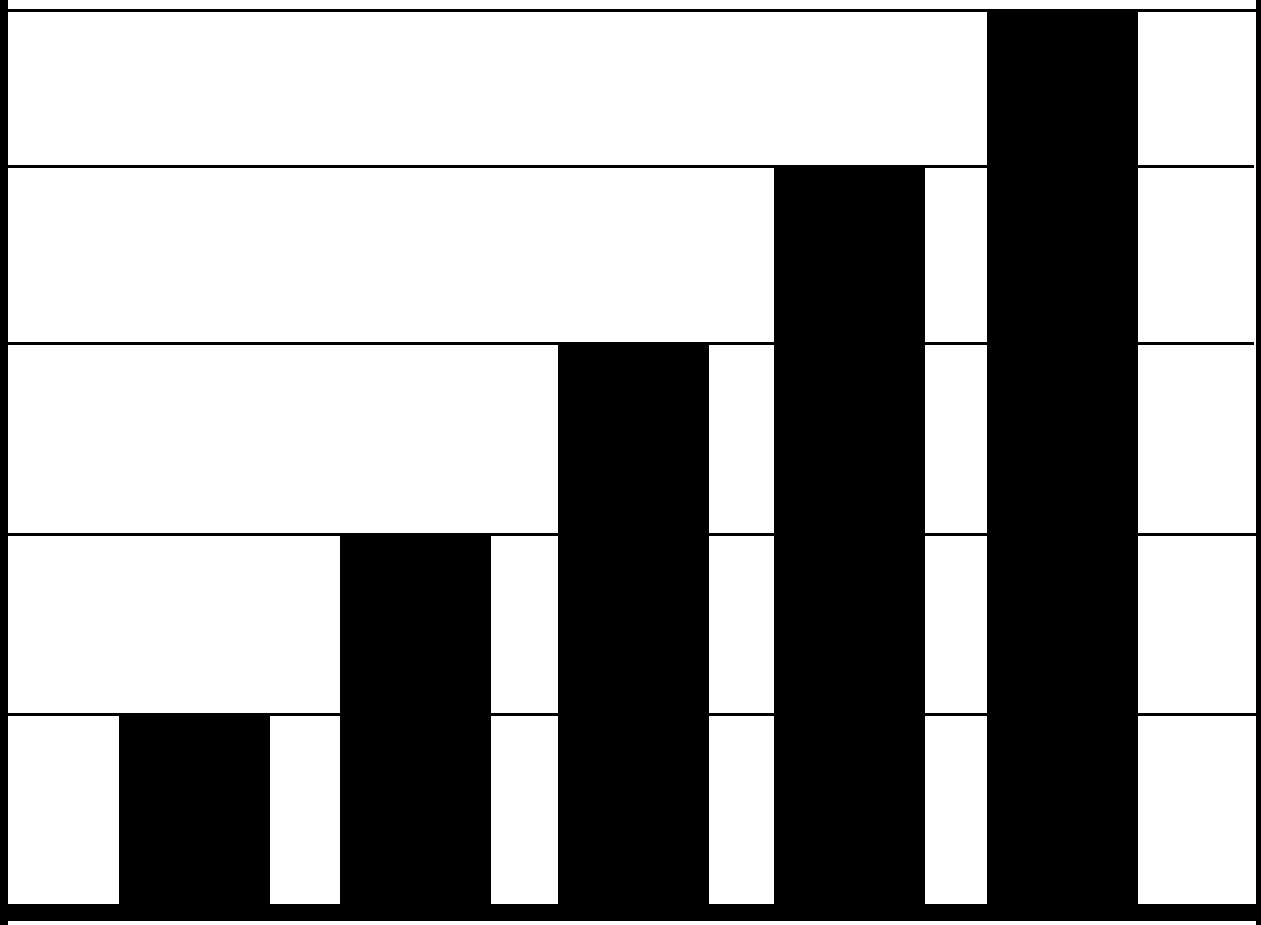
2003 Progress Report

Striving for Excellence

A Report on Missouri's System of Higher Education



April 2003

Missouri Coordinating Board for Higher Education

Striving for Excellence:
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Over the past six years, the Coordinating Board for Higher Education and the Missouri Department of Higher Education have issued an annual Progress Report on the status of higher education in Missouri. This report developed largely as a way to gauge progress in attaining the goals adopted by the Coordinating Board based on the report of the 1992 Task Force on Critical Choices for Higher Education. Responding to the enormous challenges facing higher education in the 1990s, this task force identified statewide higher education needs, measures of success related to those needs, and four broad policy initiatives to guide the higher education system successfully into the 21st century. These initiatives outlined policy goals related to (1) student preparation, access, and success; (2) institutional and program diversity without duplication; (3) administrative efficiency and institutional accountability; and (4) coordinated, balanced, and cost-effective governance.

The content of prior editions of the Progress Report has been organized around these four policy initiatives, and include data and analyses demonstrating the strides that have been made in areas related to each of these initiatives. Prior editions of the Progress Report show notable improvements in such areas as institutional diversity through mission selectivity; collaboration between the K-12 and higher education systems; student preparation, enrollments, and completion rates; and funding for and affordability of higher education.

2003 Progress Report: A Transition

This edition of the Progress Report represents a transition from being a status report framed by the goals and recommendations of the Task Force on Critical Choices for Higher Education to becoming a system-wide report card reflecting a number of new challenges and policy efforts. Certainly the national and state economic conditions severely limiting financial resources for higher education represent a significant challenge. How to maintain adequate institutional and program funding, and minimizing the negative impact that rising tuition and costs can have on successful participation are two of the specific challenges facing higher education in light of diminished economic resources.

Other issues and developments also suggest a reworked Progress Report may be warranted. These include the publication of national assessments of systems of higher education issued over the past several years, through which states are learning how they are doing with respect to key goals. Further, these assessments compare states to their neighbors, the top performing states, and all states in the country. Of particular interest are the state-by-state report cards, Measuring Up 2000 and Measuring Up 2002, issued by the National Center for Public Policy and Higher Education. The Measuring Up assessments generally indicate that although Missouri's system of higher education has made some improvements, the state is at or slightly below average in some areas, and is dramatically lacking in still other areas.

In addition, the Missouri Department of Higher Education, in conjunction with the Coordinating Board for Higher Education, is undertaking a significant revision of its departmental strategic plan to achieve better results. When completed in mid-year 2003, the strategic plan will suggest measurable ways the department and the system of higher education can refocus their efforts to significantly (1) improve the quality of education and successful participation in education; (2) enhance satisfaction among the diverse customer groups served; (3) strengthen the strategic link between investments in higher education and the economic health and vitality of the state and its communities; and (4) achieve other goals as directed by the Coordinating Board.

Another important development suggesting the need for a reworked Progress Report is the recent formation of the Commission on the Future of Higher Education. Comprised of business, private sector, community, and legislative leaders, the Commission is charged with developing a policy and funding course that will ensure the success of higher education into the early decades of the 21st century. Issues examined may overlap with earlier efforts, but no doubt new directions for higher education will be developed as a result of the Commission's work and recommendations.

Finally, a number of research and policy efforts with which the Department of Higher Education is involved are providing new ways of thinking about and addressing existing challenges, and are illuminating new challenges and needs. Chief among these research and policy efforts are: (1) the Western Interstate Commission for Higher Education-funded project, "Changing Direction: Integrating Higher Education Financial Aid and Financing Policy"; (2) the Access and Affordability project, funded by the Lumina Foundation for Education, Inc.; and (3) the National Collaborative for Postsecondary Education Policy project. In addition, the Department of Higher Education is undertaking a number of projects to improve quality, efficiencies, and customer satisfaction. Of particular importance is the results improvement initiative, intended to forge accurate performance reporting, accountability, and measured improvements at Missouri's public colleges and universities. Other improvement projects include examining outreach and early awareness efforts; implementation of a new student loan servicing contract; and redesigning the departmental web site. Implementation of project recommendations is planned for the last six months of 2003 and is expected to be completed by mid-year 2004.

Readers will find the content of the 2003 Progress Report organized around the assessment categories used in prior Progress Report editions. But, as a transitional document, this report includes new issues with related measurements. Their inclusion reflects the challenges and policy efforts outlined above. In doing so, it is hoped that a refocusing of efforts and resources, and the beginnings of a framework for new approaches to reporting on higher education progress, are achieved.

Preparation

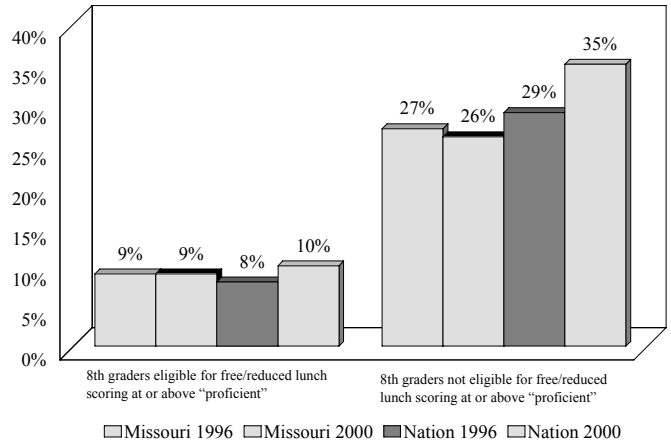
Educational preparation during the K-12 years is vital to students' ongoing academic success. Further, what is taught and what is learned, especially in high school, are tremendously important in determining employment opportunities for students and where they will fit in the knowledge-based, global economy. Indicators of the quality of students' preparation for the world of work and postsecondary education are measured in a variety of ways.

Mathematics Preparation

One important gateway to postsecondary participation and success is mastery of basic mathematics. Table 1 provides information about eighth grade students' proficiency levels on a national math assessment exam. Just over one-fourth of Missouri students from families above the poverty level score at or above the "proficient" level. In 2000, a gap of almost ten percentage points existed between the Missouri and the national proficiency levels for these eighth graders. This table also demonstrates that variations in educational preparation by economic background of the student are observed. Math proficiency levels are three times higher among Missouri eighth graders from families above the poverty level than they are for students from poor families.

In addition to math proficiency among eighth graders, improvements occurred in mathematics exposure among high school students. For example, between 1990 and 2000, the proportion of Missouri high school students taking upper level math courses increased from 36 percent to 51 percent[1].

Table 1
Preparation in Public Schools:
Math Assessment Exam 1996 and 2000



Source: "The Nation's Report Card 2000 Assessment," National Center for Education Statistics

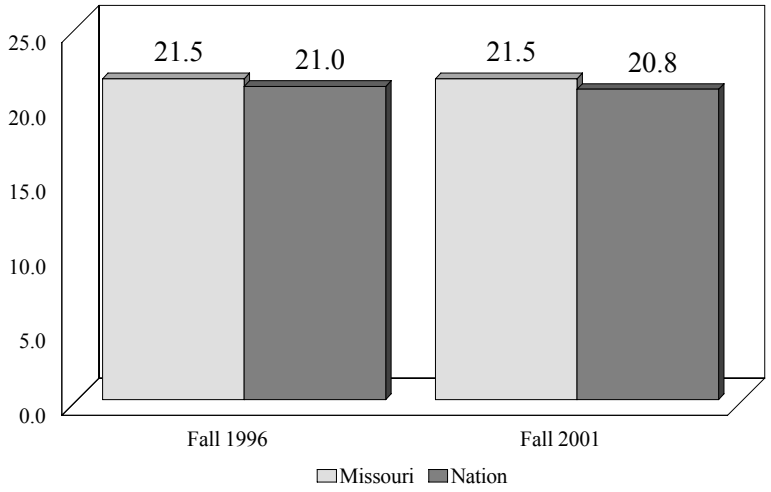
[1] The National Center for Higher Education Management Systems, 2002.

Preparation

ACT Scores

Research shows a significant link between high school students' ACT scores and college success[2]. Data in Table 2 illustrate that in Fall, 1997 and in Fall, 2001, Missouri's average ACT scores were slightly above the average national ACT scores.

Table 2
Average ACT Score
of College-bound High School Graduates



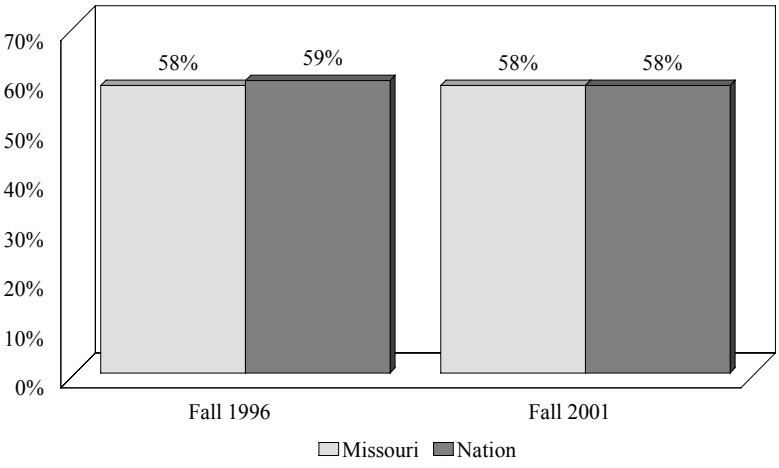
Source: ACT Profile Report

High School Core Curriculum

College success is also directly related to the rigor of courses taken in high school[3]. One way to measure course rigor is through the completion of a prescribed core curriculum[4].

As shown in Table 3, nearly 60 percent of ACT-tested high school graduates completed the college preparatory coursework specified in the ACT core curriculum. This proportion remained stable between 1996 and 2001 in Missouri and nationally (Table 3).

Table 3
ACT-tested High School Graduates
Completing the ACT Core Curriculum



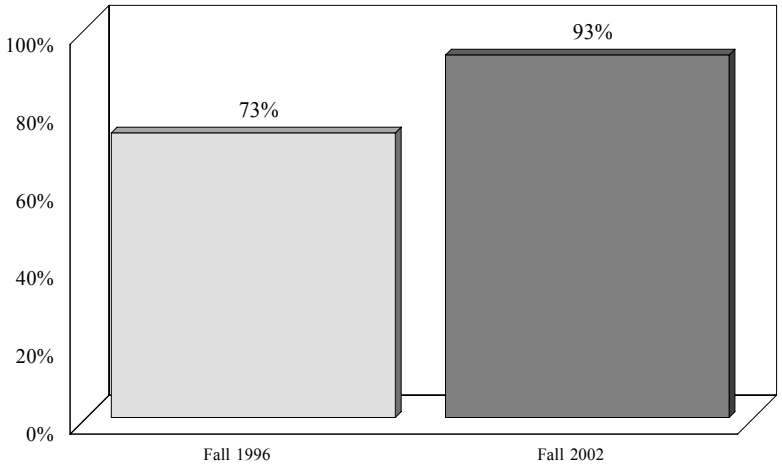
Source: ACT Assessment Report

[2] The High School Profile Report, ACT, Inc.; ACT Research Information Brief, 2001-3.
[3] Ibid.
[4] See Appendix A for a listing of the course requirements specified in the ACT core curriculum and the CBHE core curriculum.

Preparation

In 1992, the Missouri Coordinating Board for Higher Education established a 16-unit high school core curriculum as a standard for admission to all public four-year colleges and universities. The proportion of Missouri freshmen meeting this college entrance standard increased significantly over the last five years, from 73 percent in 1996 to 93 percent in 2002 (Table 4).

Table 4
Missouri First-time, Full-time Degree-seeking Freshmen Completing the CBHE High School Core Curriculum
Missouri Public Four-year Institutions



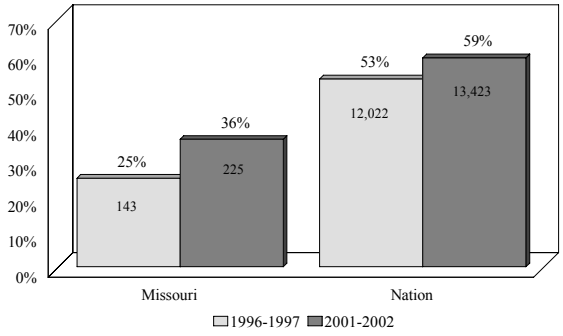
Note: Based on analysis of reported courses
Source: EMSAS

Advanced Placement

Advanced Placement (AP) programs allow high-achieving students to take college-level courses while in high school. The proportion of Missouri public and private high schools with students taking Advanced Placement exams increased by 11 percentage points between 1996-1997 and 2001-2002 (Table 5). While this is a significant increase, Missouri still lags behind the national average by over 20 percentage points.

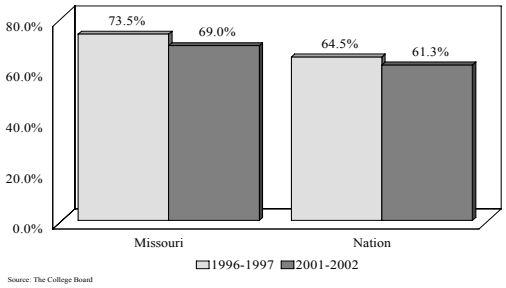
Advanced Placement exams are graded on a 5-point scale, with a score of 3 indicating that a student is qualified for college credit and/or advanced placement. In the 1996-1997 academic year, nearly three-fourths of Missouri students taking AP exams earned scores of 3 or higher. However, this percentage declined slightly by 2001-2002, to just under 70 percent (Table 6). Missouri students taking AP exams continue to compare favorably to the national averages, ranking fifth nationally in performance on AP exams.

Table 5
Percentage and Number of High Schools with Students Taking Advanced Placement Exams



Source: The College Board

Table 6
Percentage of High School Students Taking Advanced Placement Exams and Scoring At or Above 3



Source: The College Board

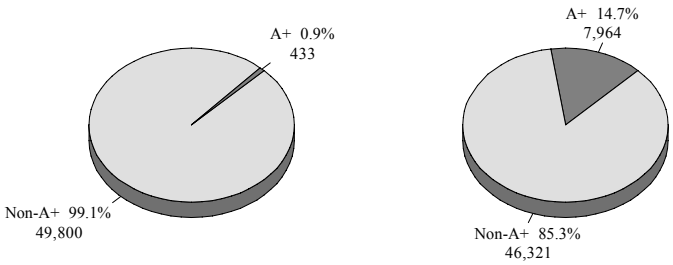
A+ High School Graduates

In 1997, Missouri implemented the A+ Schools Program to reduce high school dropout rates that in some areas of the state exceeded 25 percent. This program is also intended to help prepare students not seeking a baccalaureate degree for postsecondary success in two-year and vocation-technical programs. Students who successfully complete A+ program requirements at designated A+ high schools receive funding for the costs of attending a two-year public community college, or vocational or technical school. High school program requirements include meeting attendance standards, being involved in mentoring activities, and maintaining specified grade point averages.

In Table 7, the number of students successfully participating in the A+ program has grown dramatically since the program began. While fewer than 500 students participated in A+ in 1997, this number increased to nearly 8,000 by 2002. Much of the student increase is due to the increasing popularity of this program throughout the state, as evidenced by the nearly five-fold increase in the number of A+- designated high schools between 1997 and 2002 (38 high schools were A+-designated in 1997, as compared to 174 such high schools in 2002).

Table 7

A+ and Non-A+ High School Graduates, 1997 and 2002



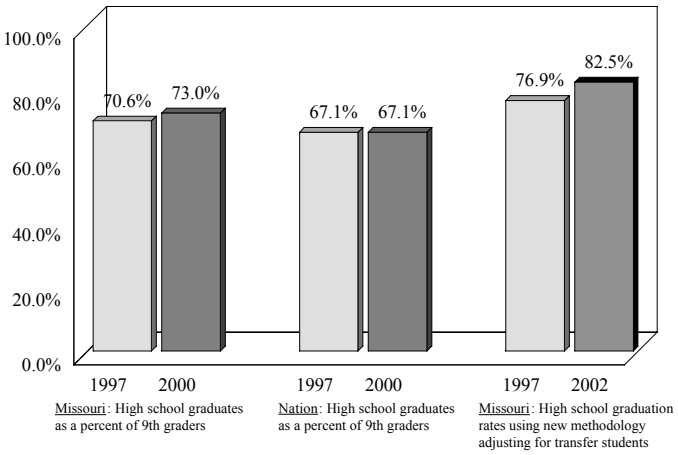
1997 2002

Source: Department of Elementary and Secondary Education

High School Completion

Without a high school diploma or general equivalency diploma (GED), students are unlikely and usually unable to participate in postsecondary programs. Without this minimal certification, individuals are unlikely to fare well economically. Table 8 shows that just over 70 percent of Missouri ninth graders graduate from public high school, with a slight improvement between 1997 and 2000. These Missouri graduation rates are several percentage points higher than the national rates. When public high school graduation rates are adjusted to account for students who transfer into and out of school districts, higher graduation rates are found, with just over 80 percent of Missouri ninth graders graduating in 2002.

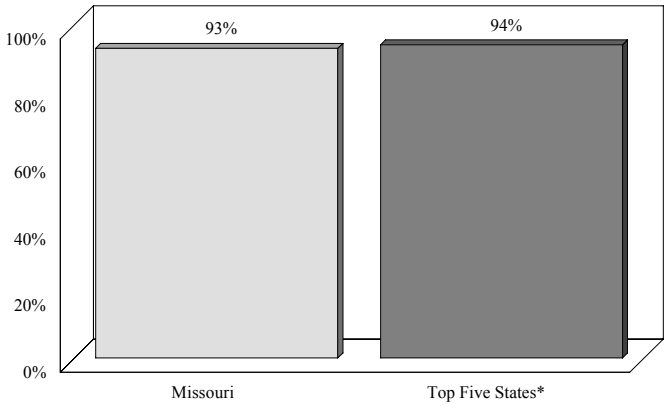
Table 8
Public High School Graduation Rates



Sources: National Center for Education Statistics, Department of Elementary and Secondary Education, National Center for Higher Education Management Systems

Finally, considering high school diplomas and general equivalency diplomas (GED) together, even higher rates of high school completion are observed. For example, in 2002, the Measuring Up 2002 assessment found Missouri to be among the top performing states on this measure, with over 90 percent of 18 to 24 year-olds having a high school credential (Table 9).

Table 9
Percentage of 18- to 24-Year-Olds with a High School Credential, 2002



*Maine, North Dakota, Alaska, Missouri, South Dakota
Source: Measuring Up 2002

Admissions Selectivity

Missouri higher education institutions differentiate their missions by implementing admissions guidelines to help students with different levels of preparation succeed in the state's system of public higher education.

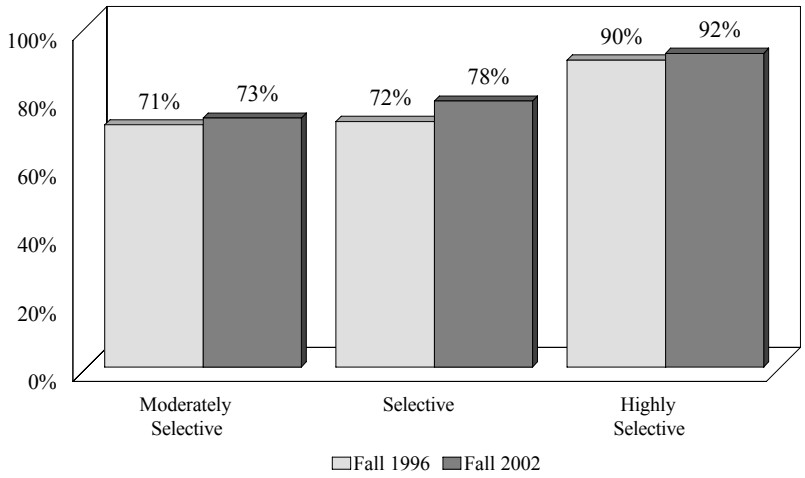
Following the Coordinating Board's recommendation, Missouri's public four-year institutions identified which admissions guidelines they would pursue: open enrollment, moderately selective, selective, or highly selective[5]. The selectivity guidelines are based on the high school percentile rank and the ACT or ACT-equivalent SAT score.

Table 10 demonstrates that between 1996 and 2002, the percentages of students meeting the admissions guidelines at Missouri's moderately selective, selective and highly selective institutions have remained consistently high. Not surprisingly, the state's highly selective institution has the largest percentage of students meeting admission guidelines.

Table 10

First-time, Full-time Degree-seeking Freshmen Meeting Admissions Guidelines

Missouri Public Four-year Institutions



Note: Percents do not include the 10% exception rate Lincoln and Western are open enrollment institutions.
Source: EMSAS

[5] See Appendix B for Admissions Selectivity Guidelines and Appendix C for a listing of public institutions by admissions selectivity type.

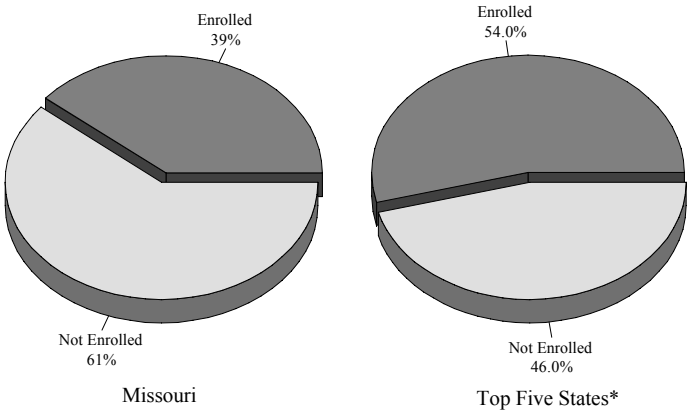
Participation

A number of factors are crucial for promoting a successful system of higher education in Missouri. Increasing the number of students enrolling in Missouri colleges and universities contributes to achievement of this goal, but strengthening those numbers by enhancing retention and completion and encouraging diversity are also important.

High School Students

A more concerted effort must be made to encourage students to seek educational opportunities beyond high school. As late as 1998, only 39 percent of Missouri's public high school students enrolled in college within four years. The top five performing states identified in the Measuring Up 2002 assessment had, on average, 54 percent of their students enrolling during this same period (Table 1).

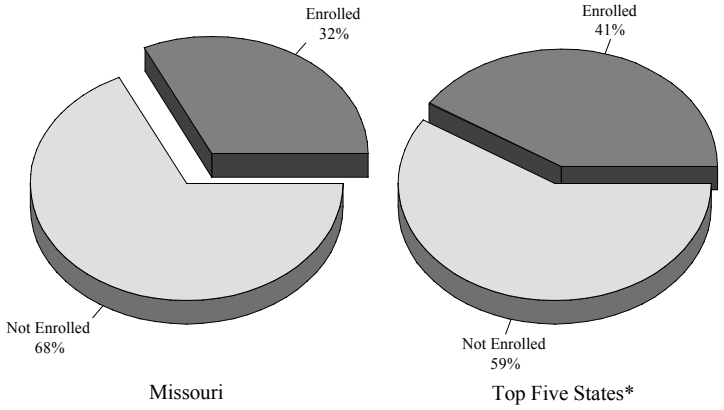
Table 1
High School Freshmen Enrolling in College in Any State Within Four Years, 1998



*Iowa, Massachusetts, Nebraska, New Jersey, and North Dakota
Source: Measuring Up 2002

In addition, between 1998 and 2000, 32 percent of Missouri's population between the ages of 18 and 24 enrolled in college. This is nearly 10 percentage points below the comparable enrollment rate among the top performing states (Table 2).

Table 2
Population Aged 18- to 24-Years Enrolled in College Between 1998 and 2000



*Connecticut, New Jersey, Hawaii, Kansas, and Michigan
Source: Measuring Up 2002

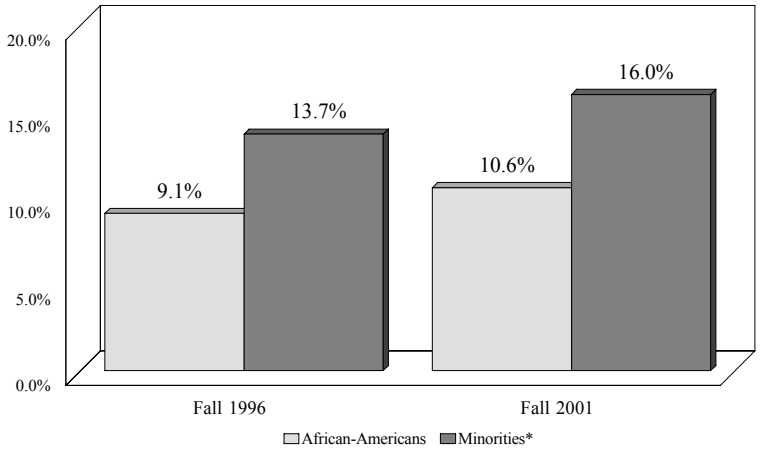
Diversity

Since 1996, Missouri's colleges and universities have made strides in achieving more diverse student populations. However, in terms of population proportions, there is still considerable room for improvement. In 2001, nearly 11 percent of the student population was comprised of African Americans. Combining African American, Hispanic, American Indian/Alaskan Native, and Asian/Pacific Islander students into a single minority grouping, we see that in 2001 they accounted for 16 percent of the student population. During the most recent five-year period, we find a 1.5 percentage point increase in African American students, and a 2.3 percent increase in all minority students among our undergraduate populations (Table 3).

Table 3

African-Americans and Minorities as a Percentage of Total Enrollment

Missouri Public and Independent Institutions

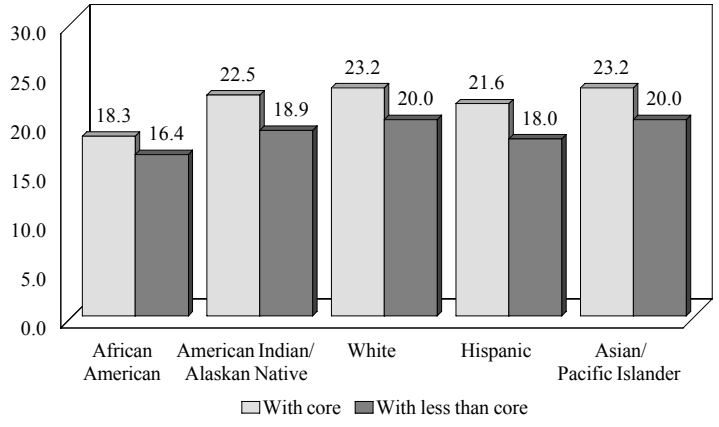


*African-American, Hispanic, American Indian/Alaskan Native, and Asian
No nonresident aliens or unknowns were included in the calculations.
Source: IPEDS EF, Fall Enrollment Survey

Taking the high school core curriculum improves student performance on the ACT test, regardless of race. African American students graduating in 2002 who took the ACT core curriculum scored nearly 2 points higher on the ACT test than similar students without the core. The performance gap was even more pronounced among the other racial/ethnic groups (Table 4).

Table 4

ACT Composite Scores of 2002 Missouri High School Graduates With or Without the Recommended ACT Core Curriculum, by Race/Ethnicity

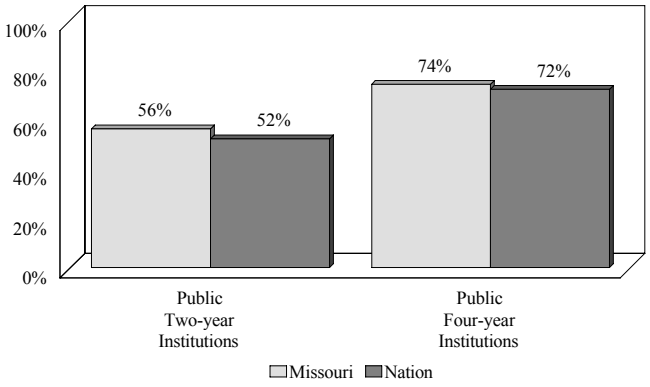


Source: ACT High School Profile Report

Student Persistence and Success

In the percentage of students continuing in college after their freshman year, Missouri is slightly ahead of the national average in both the public two- and four-year sectors. Nearly three-fourths of students enrolled in Missouri public four-year institutions, and over one-half of public two-year students, re-enroll as a sophomore after completing their freshman year (Table 5).

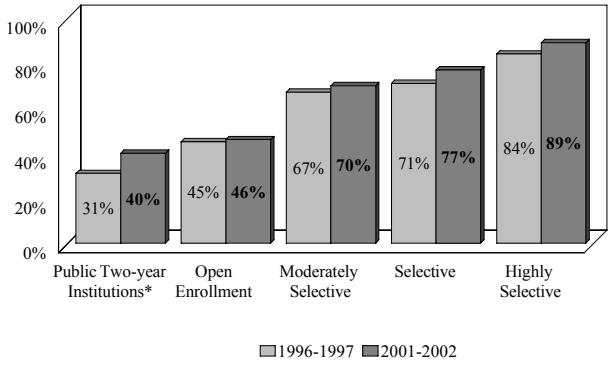
Table 5
Freshman-to-Sophomore Retention Rate, 2001-2002



Sources: EMSAS, ACT News Release

Student success rates in the public sector have improved over the last five years. The most marked improvements have occurred at public two-year institutions (an increase of nine percentage points), at selective institutions (an increase of six percentage points), and at Missouri's highly selective institution (5 percentage points) (see Table 6).

Table 6
Freshman Success: First-year Completion Rates by Admissions Selectivity
Missouri Public Institutions



*No data for Crowder, incomplete data for Moberly and Three Rivers in 1997
Source: EMSAS

Efforts to increase students' success when transferring between public two- and four-year institutions have proved beneficial, as the percentage of students starting at a two-year institution and completing their baccalaureate degree at a public four-year institution has increased by slightly more than 40 percent since 1996 (Table 7).

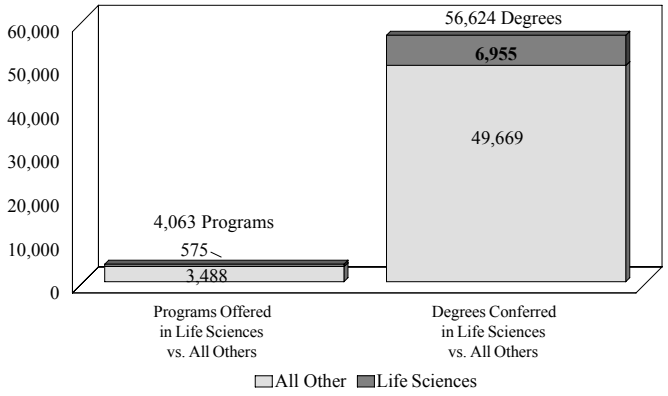
Table 7
Baccalaureate Degree Recipients from Missouri Public Four-year Institutions Who Took 12 or More Credit Hours at a Missouri Public Two-year Institution

Source: EMSAS

Selected Programs

Recognizing that qualified, highly trained workers are needed in fields crucial to both the Missouri and U. S. economies, efforts have been made to offer programs tailored to address that need. In 2001-2002, of the more than 4,000 programs offered by Missouri institutions, 575 (14 percent) were focused on life sciences (Table 8). That same year, of all the awards granted by Missouri institutions, nearly 7,000 (12 percent) were in areas related to the life sciences.

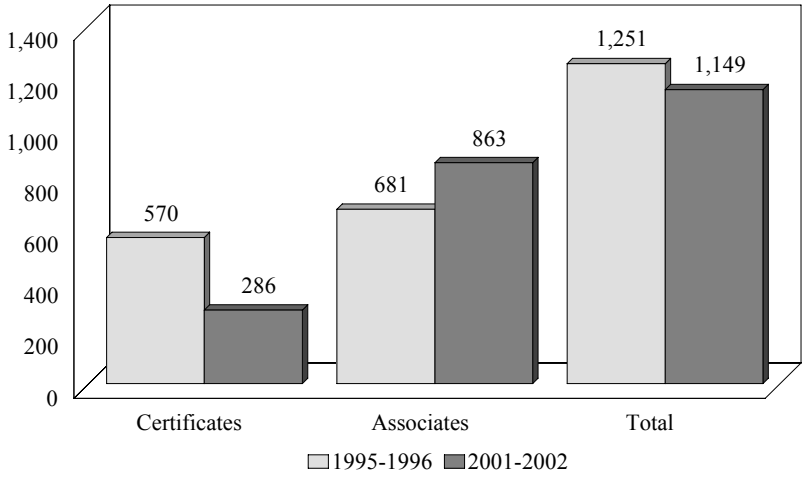
Table 8
Life Sciences Programs and
Certificates and Degrees Conferred, 2001-2002
Missouri Public and Independent Institutions



Source: IPEDS Completions Survey

We also see a sizable increase (over 25 percent) in the number of associate degrees conferred between 1995-1996 and 2001-2002 in areas related to technical education (Table 9).

Table 9
Postsecondary Technical Education:
Certificates and Associate Degrees Conferred

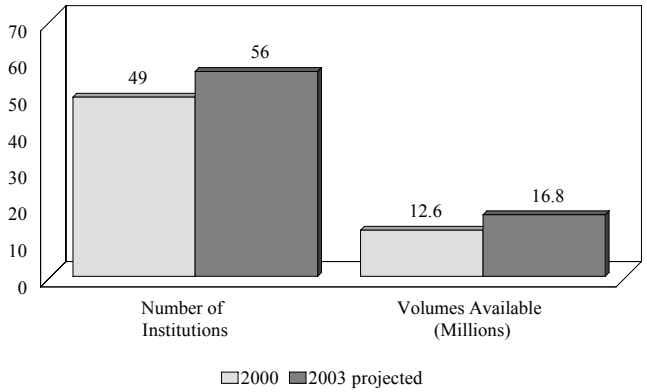


Source: IPEDS Completions Survey

Technology-aided Participation

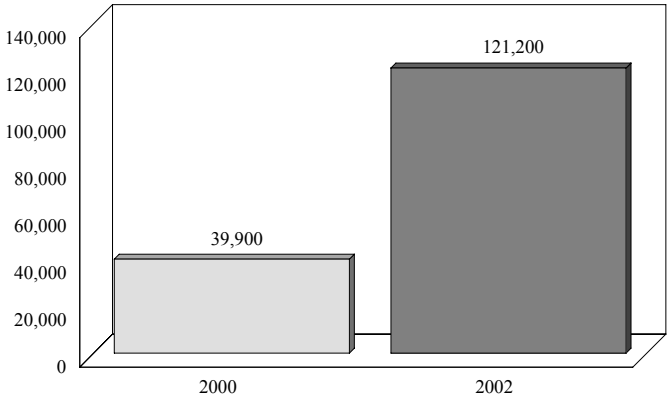
Technology enhancements can promote inter-institutional collaboration and greatly assist students throughout the state in participating in higher education. By 2003, it is anticipated that 56 institutions will be participating in the Missouri Bibliographic Information User System (MOBIUS), a consortium of academic libraries at Missouri's public and independent institutions using a common library platform which facilitates the sharing of various resources among students, faculty, and staff of member institutions. It is also projected that in 2003 more than 16 million volumes of information will be available to MOBIUS members (Table 10). MOBIUS has proved a valuable resource, as evidenced by the dramatic increase in the number of volumes checked out (Table 11).

Table 10
Technology-Aided Participation:
Participation in MOBIUS
Missouri Public and Independent Institutions



Note: Fiscal years
Source: CBHE FY 2004 Budget

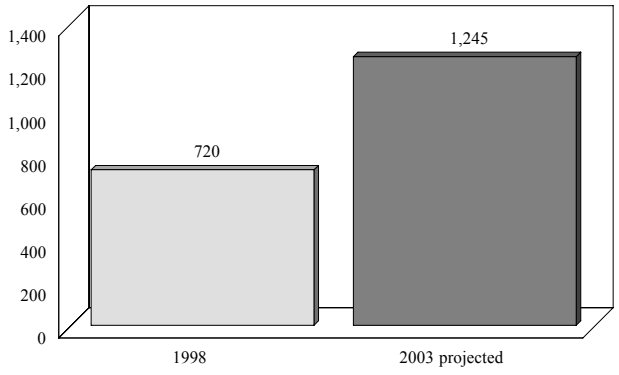
Table 11
Technology-Aided Participation:
Participation in MOBIUS
Volumes Checked Out



Note: Fiscal years
Source: CBHE FY 2004 Budget

Another valuable resource is the Missouri Research and Education Network (MOREnet). Providing high-speed Internet connections not only for Missouri higher education, but also for elementary and secondary education, public libraries, communities, and other organizations. During 2003, it is expected that MOREnet will provide 1,245 connections to the Internet (Table 12).

Table 12
MOREnet Connections

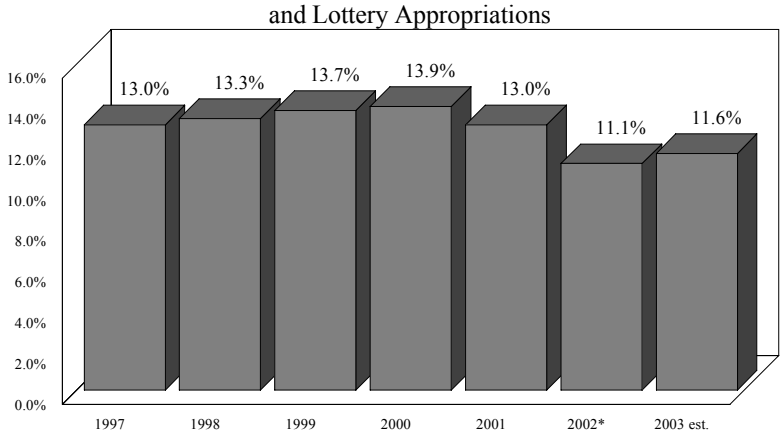


Note: Fiscal years
Source: CBHE FY 2004 Budget

Funding

The level of state funding can obviously impact the quality, accessibility, and affordability of higher education. Higher education's proportion of the state budget is one measure of state support. After gradual increases in Missouri higher education's share of state general revenue and lottery appropriations during the late 1990s and into 2000, a decline beginning in 2001 was followed by substantial decreases in state appropriations in 2002 and 2003 (Table 1).

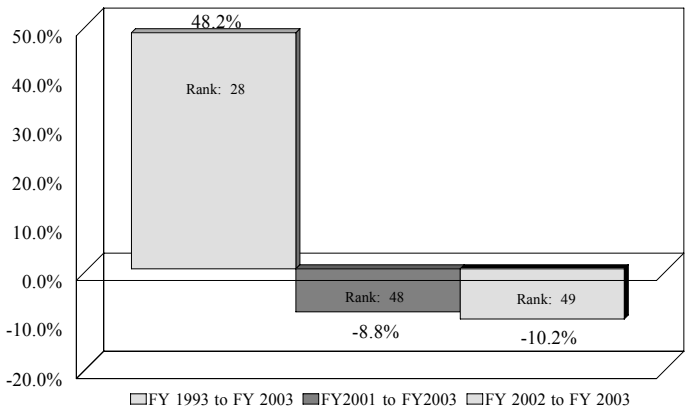
Table 1
Total Missouri Higher Education Appropriations
as a Percentage of State General Revenue
and Lottery Appropriations



*In 2002, Missouri higher education received less than the appropriated budget as a result of withholdings to make up for a shortage in state revenues.
Note: Fiscal years
Source: CBHE Fiscal Data

Owing to more prosperous times in the early 1990s, Missouri's rank among the 50 states over the 10-year period from FY 1993 to FY 2003 stands at 28th. However, Missouri ranks 49th among the 50 states in changes to higher education's portion of state appropriations between FY 2002 and FY 2003, with a 10.2 percent decline (Table 2).

Table 2
Percentage Changes in One-year, Two-year,
and Ten-year State Appropriations, FY 2003



Source: "The Grapevine," Illinois State University

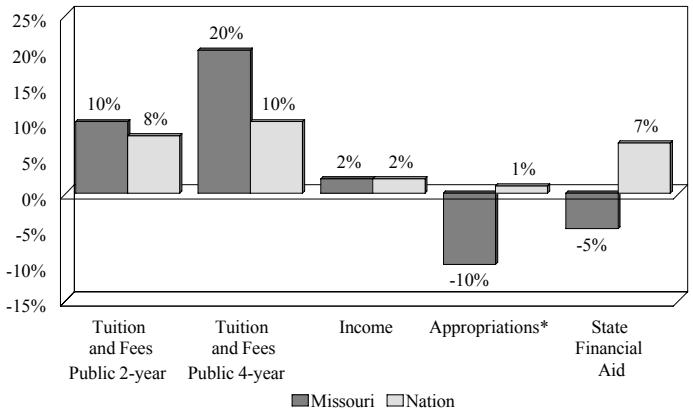
Tuition and Fees

Declining state resources have encouraged a variety of responses from Missouri's higher education institutions. One of these involves exploring options for additional revenues, including increasing tuition and fees. Like higher education institutions in many other states, most Missouri colleges and universities have initiated tuition and fee increases. These increases, combined with reduced levels of state funding, impact Missouri's students and their families in accessing postsecondary educational opportunities.

Table 3 illustrates that the most recent, one-year increases in tuition and fees at Missouri institutions have outpaced the national average, while appropriations and state financial aid in Missouri have declined significantly as compared to the small to modest national increases. An increase of 2 percent in Missouri per capita personal income for this same one-year time period matches the national average.

Table 3

Tuition and Fees, Changes in State Per Capita Personal Income, and State Appropriations for Higher Education, FY 2002 to FY 2003

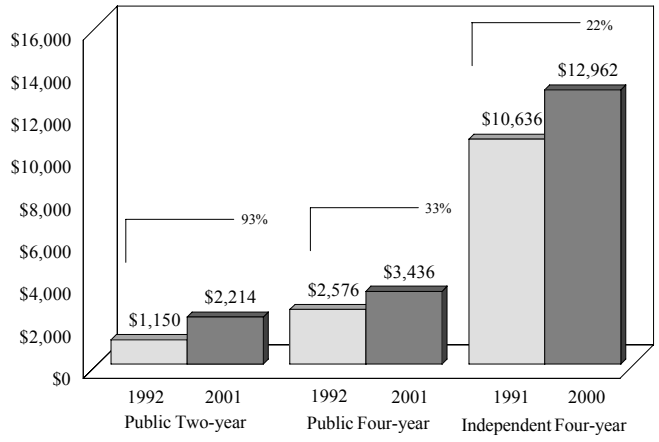


*Mo. figure excludes local funds for higher education which accounted for 9% of all state and local funding for higher education in 2001-02
Source: "College Affordability in Jeopardy, A Special Supplement to National Crosswalk," National Center for Higher Education Management Systems, Winter 2003

Examining the changes in tuition and fees over a longer time interval reveals sizable increases in tuition and fees at Missouri public and private higher education institutions. One national assessment of tuition changes over the nine-year period from 1992 to 2001 finds that tuition and fees have risen by 93 percent at Missouri's public two-year institutions (Table 4). Significant increases have also occurred at public and independent four-year institutions but to a far lesser degree (33 percent and 22 percent, respectively).

Table 4

Changes Over Time in Tuition and Fees at Missouri Institutions

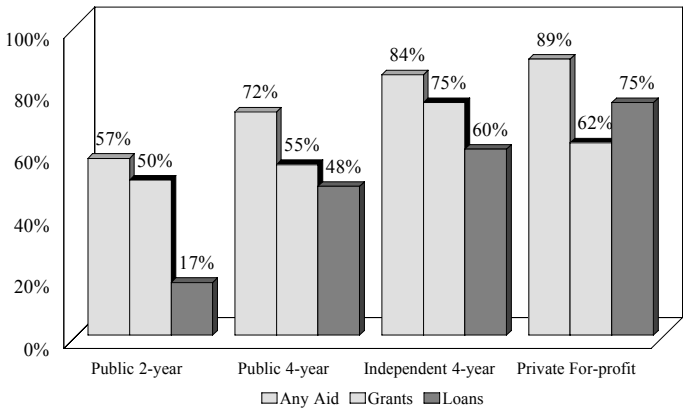


Source: "Losing Ground: A National Status Report on the Affordability of American Higher Education," National Center for Higher Education Management Systems

Financial Aid

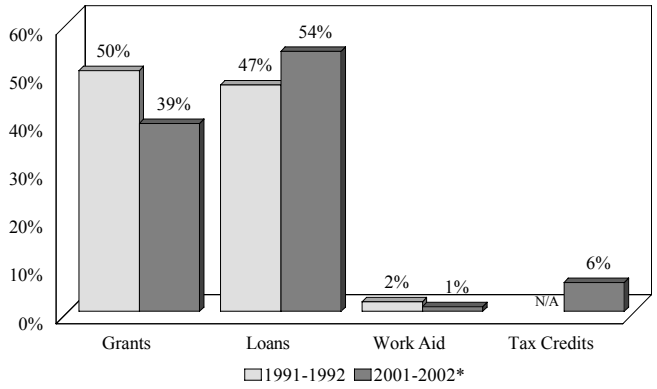
Student financial aid[6], in the form of state and federal grants, scholarships, and loans, is increasingly important in helping students access and participate in postsecondary programs. We can see that the vast majority of undergraduate students across the country receive some type of financial aid (Table 5), with student loans becoming increasingly important in financing higher education (Table 6). At the state level, students borrow on average $3,206 each year as undergraduates, compared to $3,333 nationally (Table 7).

Table 5
Percentage of Full-time Undergraduates Receiving Any Aid, Grants, or Loans, by Type of Institution Attended, 1999-2000



Source: "Student Financing of Undergraduate Education," National Center for Education Statistics

Table 6
Changes in the Distribution of Student Aid Awarded Nationally, 1991-1992 to 2001-2002



*Tuition tax credits added to total aid pool in 1998
Source: "Trends in Student Aid, 2002," The College Board

Table 7
Average Loan Amount Undergraduate Students Borrow, 2000-2001

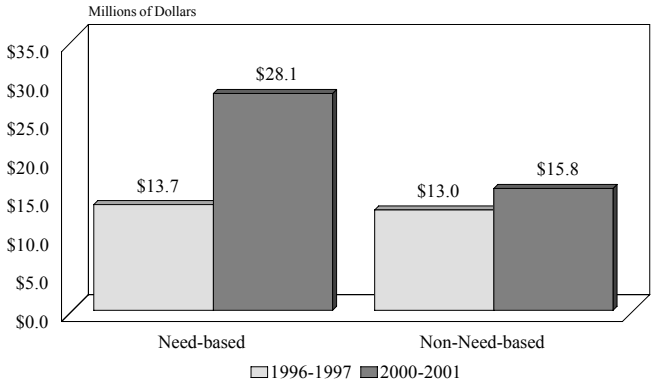
Source: National Information Center for Higher Education Policymaking and Analysis

[6]See Appendix D for a listing of the major state student grants and scholarships, with the number of students receiving awards and average amounts awarded for the 2001-02 academic year.

Affordability

The state of Missouri provides merit-based and need-based financial aid through a variety of grants and scholarships. Between 1996-1997 and 2000-2001, the state increased the total amount of assistance provided through both major types of grant aid, doubling the amount for need-based programs during this four-year time period (Table 8).

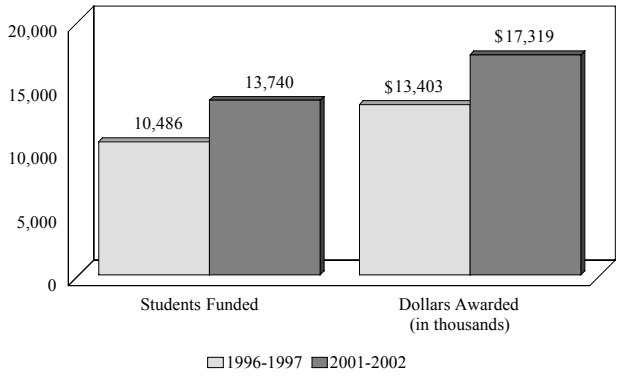
Table 8
Total Grant Assistance Awarded to Undergraduate Students from Missouri Grant Programs



Source: National Association of State Student Grant and Aid Programs, 32th Annual Survey Report

Between 1996-1997 and 2001-2002, the state increased its funding for the need-based Charles Gallagher Program from nearly $13.5 million to over $17.3 million. Even with this increase, the funding level for the Gallagher Program provides awards to just under 13,800 students, only twenty-five percent of the applicants who are eligible (Table 9).

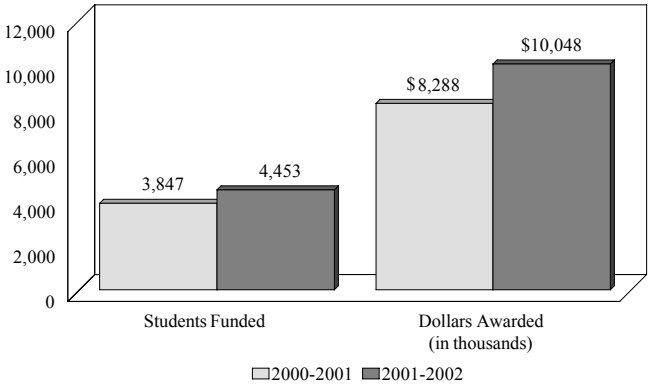
Table 9
Charles Gallagher Student Financial Assistance Program
Missouri Institutions



Source: MOSTARS

Increases have also occurred in the number of students receiving awards and in the funding levels for the Missouri College Guarantee Program, another state need-based program (Table 10). However, as is the case with the Gallagher Program, these funds are not sufficient to award grants to all students who are eligible: the nearly 4,500 students who received Guarantee awards during 2001-2002 represent only 28 percent of the total eligible pool.

Table 10
Missouri College Guarantee Program



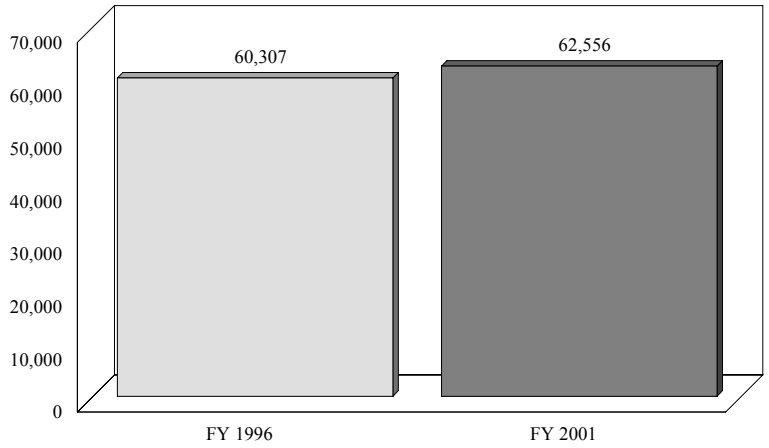
Source: MOSTARS

Affordability

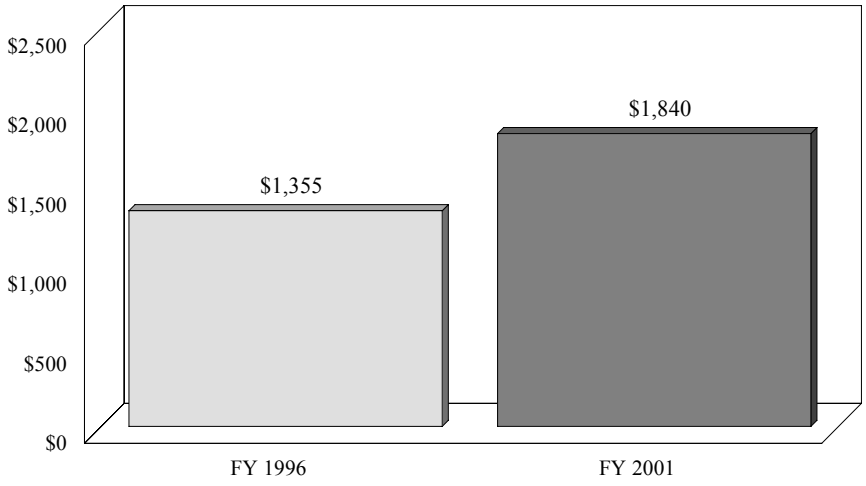
Many Missouri students also receive some form of non-loan federal aid. The federal Pell Grant program provided aid to over 62,000 Missouri students in 2001-2002, with an average award $1,840. The data also show an increase of nearly $500 in award amount per student since 1996-1997 (Table 11).

Table 11

Number of Students Receiving Pell Grants
Missouri Public and Independent Institutions



Average Amount of Pell Grant Award



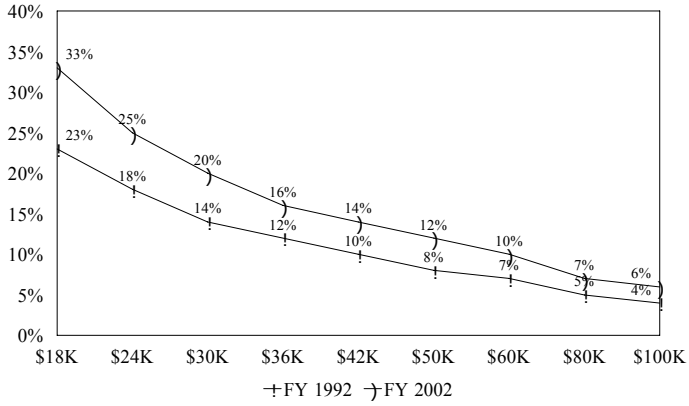
Source: DHE14-1, Student Financial Aid Awarded

Students from Low-Income Families

Between FY 1992 and FY 2002, the proportion of personal income needed for tuition and fees increased at all levels of income. However, this increase is greatest for those at the lower income levels (Table 12). For persons earning $18,000 annually, the proportion of income needed to pay for tuition and fees increased during this period by 10 percentage points; this compares to an increase of only two percent for those earning $100,000 annually.

As individual income increases, tuition and fees require proportionately smaller percentages of annual income. For example, these college costs required, on average, less than ten percent of annual income in FY 2002 for individuals at the highest income levels (those earning $60,000 or above). In contrast, for persons earning $18,000 annually, tuition and fees in FY 2002 required, on average, 33 percent of personal income.

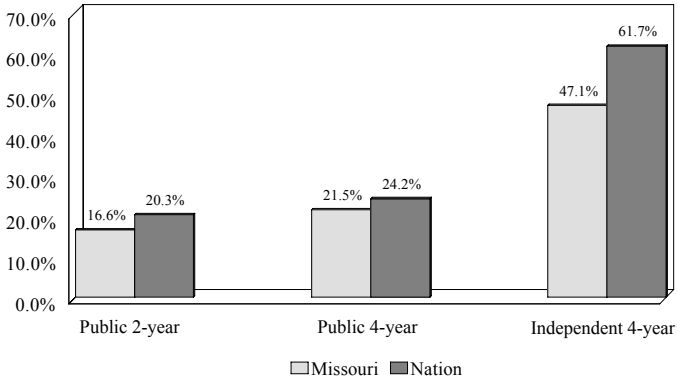
Table 12
Tuition and Fees as a Proportion of Income, by Income Levels



Source: IPEDS Finance Survey

Another way to examine income differences and educational affordability is by focusing on the income required to attend specific types of institutions. Not surprisingly, Missouri public two-year institutions require, on average, the smallest proportion of annual income (nearly 17 percent in 2001), with independent four-year schools requiring the most (nearly one-half of income). These trends are also found nationally, although at levels requiring more income than is true for Missouri institutions (Table 13).

Table 13
Percentage of Income Needed for Public Two-year and Public and Independent Four-year College Expenses*



*Minus financial aid; includes tuition and room and board
Source: The National Information Center for Higher Education Policymaking and Analysis

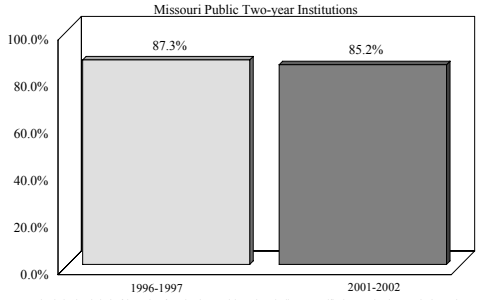
Performance

In 1992, the Coordinating Board for Higher Education adopted 24 goals for Missouri's system of higher education aimed at fulfilling the vision and addressing the needs identified in the report of the *Task Force on Critical Choices for Higher Education*. The goals were refined in 1993 by institutional representatives and reaffirmed in 1996 by the CBHE Presidential Advisory Committee. Several measures were used in monitoring institutional progress toward meeting those goals and they became part of the board's Funding for Results, or performance-based budget recommendations. Although Funding for Results did not receive funds beginning in 2002, data continue to be collected and analyzed, some of which are outlined below.

Student Assessment and Performance

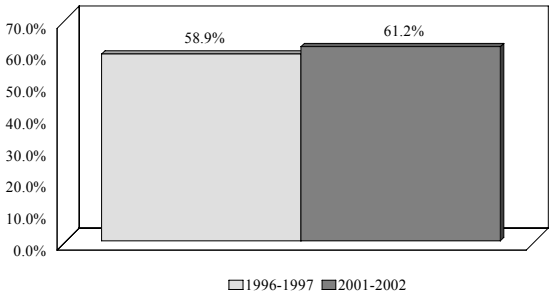
The percentage of associate degree recipients at Missouri public two-year colleges receiving pass scores on a licensure, certification, or registration exam that is scored pass/fail declined from 87.3 percent in 1996-1997 to 85.2 percent in 2001-2002 (Table 1). However, at the baccalaureate level, the percentage of students assessed using a nationally normed assessment test in general education or in the major field and who scored at or above the 50th percentile increased slightly (Tables 2 and 3).

Table 1
Proportion of Associate Degree Recipients Receiving Pass Scores on a Licensure, Certification, or Registration Exam that is Scored Pass/Fail
Missouri Public Two-year Institutions



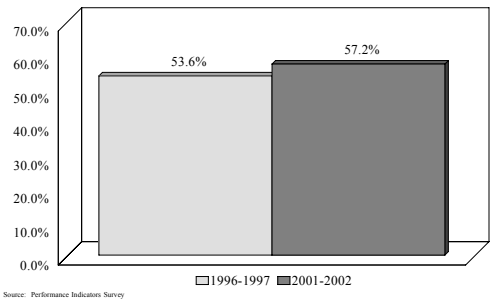
Note: Percentage is calculated on the basis of the number of associate degree recipients who took a licensure, certification, or registration exam that is scored pass/fail.
Source: Performance Indicators Survey

Table 2
Of Baccalaureate Degree Recipients Assessed Using a Nationally Normed Assessment of General Education, the Percentage Scoring at or Above the 50th Percentile
Missouri Public Four-year Institutions



Source: Performance Indicators Survey

Table 3
Of Baccalaureate Degree Recipients Assessed Using a Nationally Normed Assessment of the Major Field, the Percentage Scoring at or Above the 50th Percentile
Missouri Public Four-year Institutions



Source: Performance Indicators Survey

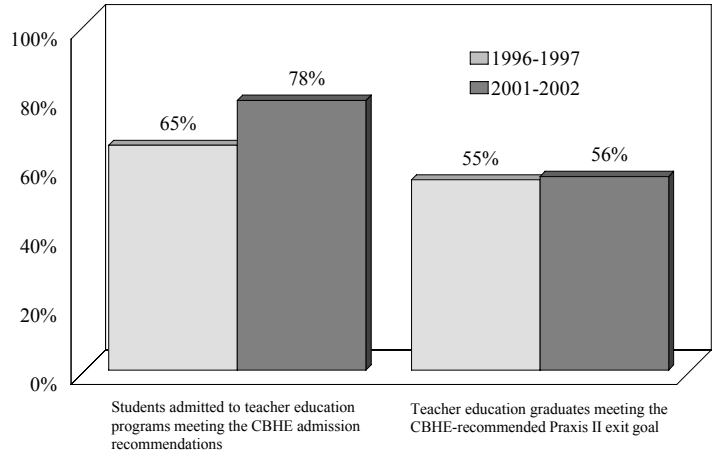
Performance

Missouri is making progress in its efforts to produce more qualified teachers as evidenced by the increase in the percentage of students admitted to teacher education programs meeting the CBHE admission recommendations (Table 4). Graduates of teacher education programs meeting the CBHE-recommended Praxis II exit goal also showed a slight increase between 1996-1997 and 2001-2002, from 55 percent to 56 percent.

Table 4

Quality/Performance in Teacher Education Programs

Missouri Public Four-year Institutions

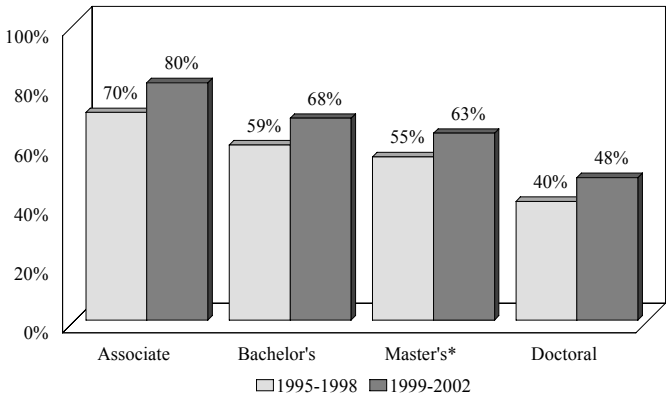


Note: ACT composite score at the 66th percentile and/or a score of 265 or above on the C-BASE
Source: Performance Indicators Survey

Completers

The state has an interest in encouraging Missouri-educated students to remain in the state to work. Eighty percent of Missouri students graduating with an associate degree between 1999 and 2002 entered the workforce in Missouri (Table 5). As students acquire degrees at higher levels, the percentage remaining in Missouri to work declines. Just under one-half of students receiving doctoral degrees between 1999 and 2002 (48 percent) entered Missouri's workforce.

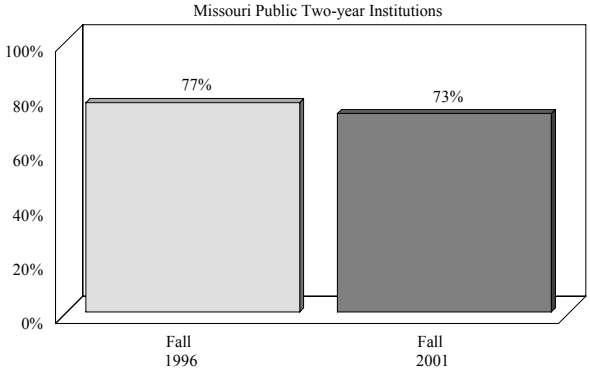
Table 5
Graduates of Missouri Public Institutions
Entering Missouri's Workforce



*Does not include education specialists
Source: EMSAS and Unemployment Insurance earnings data

In 2001, students completing vocational education programs at Missouri public two-year institutions found employment in a related field at a rate of 73 percent (Table 6). This is down slightly from 77 percent in fall 1996.

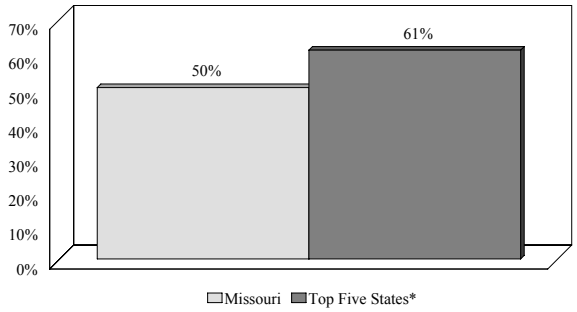
Table 6
Vocational Education Program Completers
Employed in Fields Related to Their Education
Missouri Public Two-year Institutions



Source: Missouri Department of Elementary and Secondary Education

Student completion rates in Missouri lag behind those for the top five performing states as identified in Measuring Up 2002 (Table 7). In 1999, within six years of college entrance, 50 percent of Missouri's first-time, full-time students completed a bachelor's degree at their original institution. This compares to 61 percent for the top states.

Table 7
First-time, Full-time Students Completing a Bachelor's Degree at the
Institution They Entered Within 6 Years of College Entrance, 1999

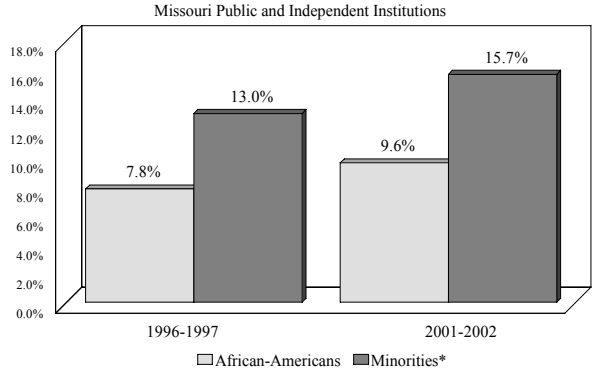


*Rhode Island, New Hampshire, Massachusetts, Pennsylvania, and Delaware
Source: National Center for Higher Education Management Systems

Performance

The percentage of degrees conferred to African Americans and all minorities has increased since 1996-1997. However, in 2001-2002, only 9.6 percent of all degrees conferred by Missouri's public and independent institutions were awarded to African Americans (Table 8). Combining the minority racial/ethnic groups into a single minority grouping, just under 16 percent of all degrees conferred were awarded to these individuals in 2001-2002.

Table 8
Degrees Conferred to African-Americans and Minorities
as a Percentage of Total Degrees Conferred
Missouri Public and Independent Institutions

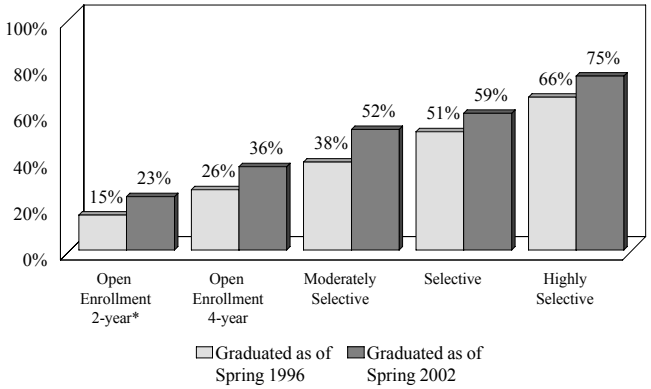


*African-American, Hispanic, American Indian/Alaskan native, and Asian
No nonresident aliens or unknowns were included in the calculations.
Source: IPEDS Completions Survey

Graduation rates at Missouri's public institutions have improved. In the two-year sector, only 15 percent of the 1993 first-time, full-time freshmen graduated within 3 years (Table 9). By spring 2002, graduation rates for the 1999 cohort had improved to 23 percent.

Among the four-year institutions, graduation rates have improved at all levels of admissions selectivity (Table 9).

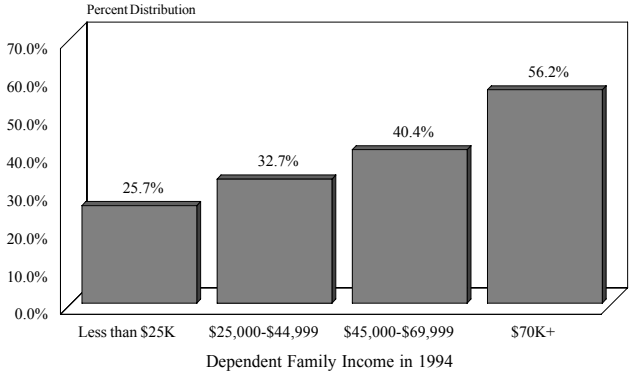
Table 9
Three-year (Two-year Institutions) and Six-year (Four-year Institutions)
Graduation Rates of the Full-time Freshman Cohort
Graduating from Any Missouri Public Institution



*Three-year graduation rates; 1993 and 1999 cohorts
Source: EMSAS

National data indicate that baccalaureate degree attainment is strongly influenced by family income (Table 10). For students from families with an income in 1994 of less than $25,000, only 25.7 percent completed a baccalaureate degree within five years. This compares to a five-year graduation rate of 56.2 percent for students from families with incomes of $70,000 or more.

Table 10
Baccalaureate Degree Attainment by June 2001
of 1995-1996 Beginning Postsecondary Students, by Family Income



Source: "Descriptive Summary of 1995-96 Beginning Postsecondary Students: Six Years Later," National Center for Education Statistics

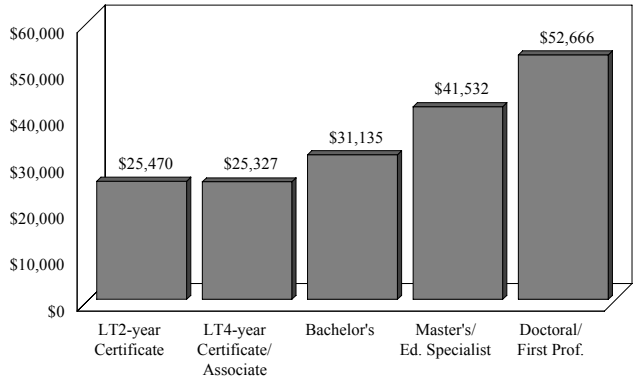
Benefits

Advanced education provides a variety of benefits to individuals, the state, and society as a whole. From increased voter registration to increased volunteerism, data show that productivity and contributions increase when levels of education are increased[7]. While this report focuses on the economic benefits of education, this emphasis does not imply that the social, community-based, and civic benefits from increasing educational levels are unimportant.

Additional Personal Income

Increased levels of educational attainment are clearly and strongly related to increased levels of income. Persons who attained a bachelor's degree from a Missouri public college or university between 1987 and 2002 and who were employed in Missouri in 2002 earned, on average, just over $31,000 annually (Table 1). Individuals with advanced degrees averaged considerably higher annual incomes, earning roughly $10,000 to $20,000 more each year than did individuals with a bachelor's degree.

Table 1
Average Earnings for Graduates
of Public Higher Education Institutions Working in Missouri,
1987-2002

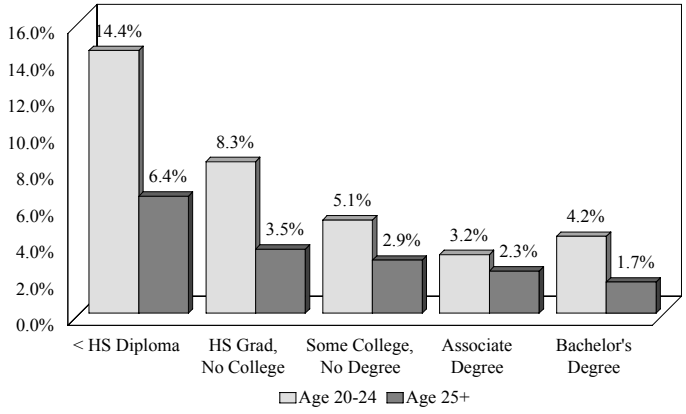


Source: Research funded by Lumina Foundation grant: University of Missouri-Columbia, Department of Economics

Reduced Unemployment

Table 2 clearly shows that as educational levels increase, the chances for unemployment significantly decrease. This relationship is especially strong for those under age 25. Low unemployment rates are a primary indicator of the state's general economic health and stability, and have obvious benefits for individuals, communities, and the state.

Table 2
Unemployment Rate by Highest Degree Attained, 2000
National Data



Source: Digest of Education Statistics 2001, National Center for Education Statistics

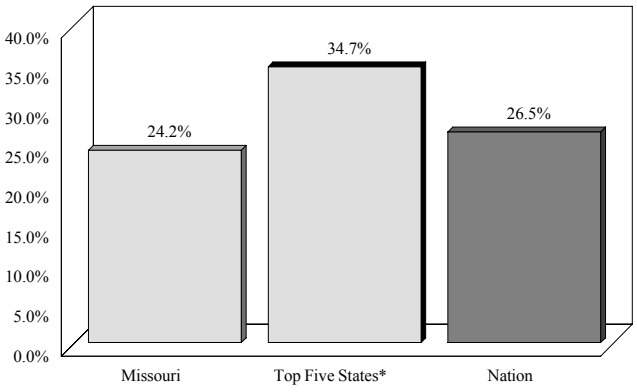
[7] See *Measuring Up 2000* and *Measuring Up 2002*.

Additional Income for Missouri

One important benefit from having a well-educated populace is the increase in personal and public income that is generated.

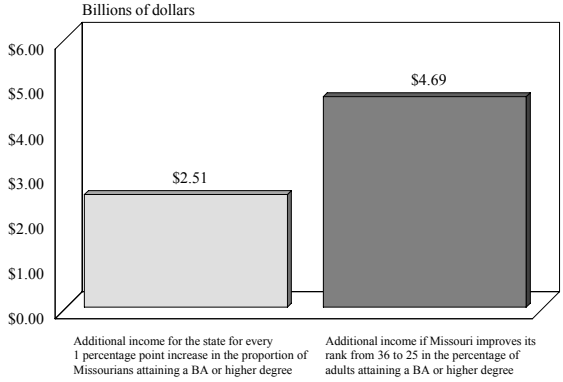
In 2000, Missouri lagged behind the top five performing states as identified in Measuring Up 2002 in the percentage of the population aged 25 to 65 with a bachelor's degree or higher (Table 3). Just over 24 percent of Missourians in that age range had a bachelor's degree or higher, compared to the top five performing states, where nearly 35 percent of their citizens aged 25 to 65 had attained at least a bachelor's degree. Analyses of federal Census and other data indicate that for every one percentage point increase in the proportion of Missourians with at least a bachelor's degree, $2.5 billion for the state as a whole is generated (Table 4).

Table 3
Population Aged 25 to 64
with a Bachelor's Degree or Higher, 2000



*Colorado, Connecticut, Maryland, Massachusetts, and New Jersey
Source: National Information Center for Higher Education Policymaking and Analysis

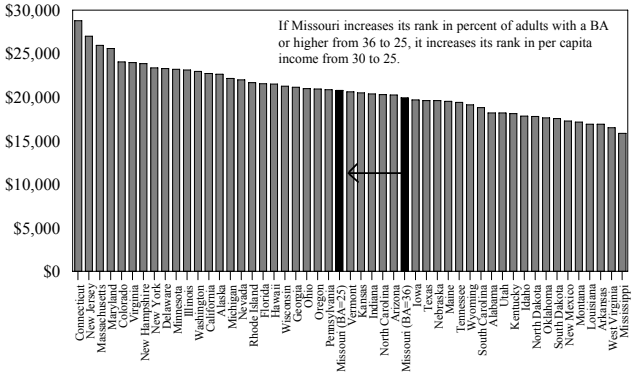
Table 4
Addition to Missouri Income from Raising College Attainment
to a BA Degree or Higher



Source: Research funded by Lumina Foundation grant: University of Missouri-Columbia, Department of Economics

Among all states, Missouri currently ranks 36th in the proportion of adults with at least a bachelor's degree, and ranks 30th in per capita income (Table 5). Improving the proportion of well-educated Missourians above current levels is associated with large increases in both total state income and per capita income (Tables 4, 5, 6). As shown in Table 4, an estimated $4.69 billion could be generated for the state as a whole if Missouri improves its national rank on the percentage of adults with a bachelor's degree or higher from 36th to the average among all states (a ranking of 25th).

Table 5
Change in Missouri's Rank in Per Capita Income If Percent of Adults
with BA or Higher Is Increased to U. S. Median



Source: Research funded by Lumina Foundation grant: University of Missouri-Columbia, Department of Economics

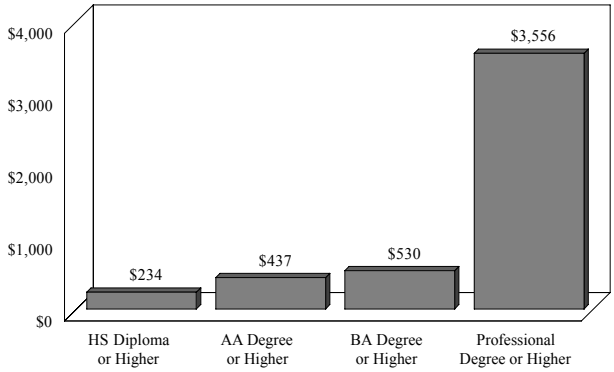
Per Capita Income Benefits

As the level of educational attainment increases, so too does the amount of per capita income, as shown in Table 6. For every one percentage point increase in educational attainment among adults, at all levels of education, corresponding anticipated increases in Missouri per capita income are also found.

As individuals attain more education, especially beyond high school, the expected increases in per capita income become significantly larger. For example, a one percentage point increase in the proportion of adults with a high school diploma or higher produces an estimated increase of $234 in per capita income. We see an effect that is nearly twice as large at the bachelor's degree level, with an expected per capita income increase of $530, and an effect that is more than 15 times as large at the advanced degree level, with an expected per capita income increase of $3,556.

Table 6

Increase in Per Capita Income Resulting
from a One Percentage Point Increase in the Population
at Certain Educational Levels



Source: Research funded by Lumina Foundation grant: University of Missouri-Columbia, Department of Economics

Appendix A. CBHE- and ACT-recommended High School Core Curriculum

CBHE-recommended High School Core Curriculum

English: At least four units, one of which may be speech or debate, and two units of which must be in courses emphasizing composition or writing skills.

Mathematics: At least three units, high school level algebra and beyond, including algebra II.

Social Studies: At least three units, including American history and at least one semester of government.

Science: At least two units (not including general science), selected from biology, chemistry, or physics, one of which is a laboratory course.

Visual and Performing Arts: At least one unit of fine arts courses in the visual arts, music, dance, and theater.

Core Electives: Three units selected from foreign language (two units of one foreign language are strongly recommended) and/or combinations from two or more of the following course areas: English, mathematics, social studies, science visual and performing arts. A computer science course with a prerequisite of at least algebra I is permissible as a mathematics elective. State and/or international history are permissible as social studies electives.

ACT-recommended College Preparatory Courses

English: Four years or more, one year of credit each for English 9, 10, 11, and 12.

Mathematics: Three years or more, one year credit each for algebra I, algebra II, geometry, one-half year credit each for trigonometry, calculus (not pre-calculus), other mathematics courses beyond algebra II, computer math/computer science.

Social Science: Three years or more, one year credit each for American history, world history, American government, one-half year credit each for economics, geography, psychology, and other history.

Natural Science: Three years or more, one year credit each for general/physical/earth science, biology, chemistry, physics.

Appendix B. Admissions Selectivity Guidelines

It is recommended that all students enrolling in Missouri's public four-year institutions take the CBHE-recommended 16-unit high school core curriculum. In addition, the following admissions selectivity guidelines have been established as part of the Coordinating Board's public policy initiative to differentiate the missions of the state's public system of higher education.

Open Enrollment (Lincoln University, Missouri Western State College, the state's public two-year community colleges, and Linn State Technical College): Students may be admitted based on a high school diploma or its equivalent, but admission to selected programs is based on each program's admissions standards. While these institutions are open enrollment, special admissions requirements apply to selected programs.

Moderately Selective (Central Missouri State University, Harris-Stowe State College, Missouri Southern State College, Northwest Missouri State University, and Southeast Missouri State University): combined ACT percentile score and high school percentile rank total points which equal or exceed 100, automatic admission with an ACT test score of 21

Selective (Southwest Missouri State University and University of Missouri System): combined ACT percentile score and high school percentile rank total points which equal or exceed 120, automatic admission with an ACT test score of 24

Highly Selective (Truman State University): combined ACT percentile score and high school percentile rank total points which equal or exceed 140, automatic admission with an ACT test score of 27

Note: High school percentile rank is calculated from the high school class rank and high school class size reported for each student through the Enhanced Missouri Student Achievement Study. The ACT percentile rank is derived from the ACT composite score that the school provides for each student using a conversion table included in the Enhanced Missouri Student Achievement Study instruction manual.

Appendix C. Institutional Missions

Public Colleges and Universities

Open Enrollment Institutions

Community Colleges: Associate degree-granting institutions with open enrollment admissions specializing in workforce development; Missouri's lead institutions in delivering postsecondary technical education in partnership with the state's area vocational technical schools

Linn State Technical College: Associate of applied science degree-granting institution with open/selective enrollment and a mission focusing on programmatic access to highly specialized technical education

Missouri Western State College: Baccalaureate-level, open enrollment institution serving the greater St. Joseph area and focusing on access to learner success with a special retention program, Access Plus

Lincoln University: 1890 land-grant, master's-level institution with open enrollment admissions serving mid-Missouri and focusing on access to learning success

Moderately Selective Institutions

Harris-Stowe State College: Baccalaureate-level, moderately selective admissions institution with selected applied professional programs serving the city of St. Louis

Missouri Southern State College: Baccalaureate-level, moderately selective admissions institution with an international emphasis serving the greater Joplin area

Central Missouri State University: Master's-level, moderately selective admissions institution with a statewide mission focusing on programmatic access to professional applied science and technology programs at the baccalaureate and master's degree levels

Northwest Missouri State University: Master's-level, moderately selective admissions regional institution serving northwest Missouri through the extended electronic campus

Southeast Missouri State University: Master's-level, moderately selective admissions, regional institution serving southeast Missouri through extended partnerships, with special emphasis on experiential learning

Selective Institution

Southwest Missouri State University: Master's-level, selective admissions institution with a statewide mission in public affairs, providing programmatic access for southwest Missouri, with a two-year branch campus in West Plains and a research station in Mountain Grove

University of Missouri System: Selective admissions, statewide land-grant university with four campuses (Columbia, Kansas City, Rolla, and St. Louis) focusing on quality graduate, doctoral, and professional programs and research through endowed chairs, distinguished professorships, and enriched funding for selected programs, and enhancing the national stature and recognition of selected graduate programs and areas of research

Highly Selective Institution

Truman State University: Highly selective admissions, master's-level liberal arts and sciences university, focusing its statewide mission on the special quality of the liberal arts teaching and learning environment

Independent Colleges and Universities

Missouri's 25 independent colleges and universities add diversity and strength to the state's system of higher education through focused missions differentiated by both tradition and selectivity. Their missions range from highly selective, doctoral degree-granting research universities to comprehensive associate, baccalaureate, and master's degree-granting colleges and universities. Missouri's independent liberal arts colleges and universities educate many of the classroom teachers and business leaders for Missouri and the nation and prepare students for graduate and advanced professional study. Missouri also has a number of theological, osteopathic, and chiropractic colleges and specialized art schools that further increase the diversity of opportunities that exist within the state's system of higher education.

Private Career Schools

More than 120 private career and proprietary schools are certified by the Coordinating Board to offer courses and programs in Missouri. Short-term training, certificate programs, and two- and four-year degrees offered by the proprietary sector contribute to the diversity of learning opportunities within the state's system of higher education.

Appendix D. Major State Student Financial Assistance Programs (2001-02 Academic Year)

Department Responsible for Administration	Program Name	Type	Total Awarded	Number of Recipients	Average Amount Awarded
Elementary and Secondary Education	Missouri Teacher Education Scholarship	Merit-based	$240,000	237	$1,013
	Missouri Minority Teaching Scholarship	Merit-based	$194,000	97	$2,000
	A + Schools Program	Merit-based	$10,282,334	10,028	$1,025 (per semester)
Health and Senior Services	Missouri Professional and Practical Nursing Student Loan Program	Loan for full-time	$342,750	70	$4,896
	PRIMO	Loan for students pursuing careers as primary care health professionals	$1,500,000	105	$14,286
	Nurse Loan Repayment	Loan repayment for nursing students to work in areas of need	$107,250	8	$13,406
	Health Professional Loan Repayment	Loan repayment for health professionals to work in areas of need	$90,000	4	$22,500
Higher Education	Bright Flight Scholarship	Merit-based scholarship	$15,594,230	8,238	$1,893
	Charles Gallagher	Need-based grant	$17,323,495	13,797	$1,256
	Marguerite Ross Barnett Scholarship	Need-based scholarship	$443,003	326	$1,359
	Advantage Missouri	Need-based forgivable loan	$1,375,662	606	$2,270
	Missouri College Guarantee	Merit- and Need-based grant	$10,047,578	4,477	$2,244
	Missouri College Guarantee Plus	Merit- and Need-based grant	$34,813	15	$2,321
	Public Service Officer or Employee's Child Survivor Grant	Tuition grant	$37,354	15	$2,490

	Vietnam Veteran's Survivor Grant	Tuition grant	$9,020	4	$2,255
Natural Resources	Environmental Educational Scholarship Program	Merit-based grant	$48,500	25	$1,940
Total			$57,669,989	38,052*	

* Note: Students may be receiving assistance through more than one program.

Source: Department of Elementary and Secondary Education; Department of Health and Senior Services; Department of Higher Education; Department of Natural Resources.

Missouri Department
of Higher Education

Missouri Coordinating
Board for Higher
Education

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